IN THE CLAIMS:

Specific Instructions for Claim Amendments:

Please cancel Claim 14, 17, 22, and 37, without prejudice to or disclaimer of the subject matter therein.

Please amend Claims 1, 2, 4, 18-19, 23-31, 36 and 38 as shown below, without prejudice to or disclaimer of the subject matter therein.

Please add new Claim 39 as shown below.

Listing of Claims:

1. (Currently Amended) A method to reduce airway hyperresponsiveness in a mammal, consisting essentially of increasing γδ T cell action in a mammal that has, or is at risk of developing, a respiratory condition associated with airway hyperresponsiveness by administering ~~an agent that activates γδ T cells~~ tumor necrosis factor-α (TNF-α) to the lung tissue of said mammal, wherein administration of said TNF-α reduces airway hyperresponsiveness in said mammal.

2. (Currently Amended) The method of Claim 1, wherein said TNF-α ~~agent~~ is administered so that the number of γδ T cells in the lung tissue of said mammal increases.

3. (Cancelled)

4. (Currently Amended) The method of Claim 1, wherein said TNF-α ~~agent~~ is administered so that γδ T cells in said mammal are activated.

5-17. (Cancelled)

18. (Currently Amended) The method of Claim 17, wherein said TNF-α ~~agent~~ is targeted to γδ T cells in the lung tissue of said mammal.

19. (Currently Amended) The method of Claim 17, wherein said TNF-α ~~agent~~ is targeted to γδ T cells having a T cell receptor (TCR) selected from the group consisting of a murine TCR comprising Vγ4 and a human TCR comprising Vγ1.

20-22. (Cancelled)

23. (Currently Amended) The method of Claim 22, wherein said TNF-α ~~agent~~ is administered by a route selected from the group consisting of inhaled, intratracheal and nasal routes.

24. (Currently Amended) The method of Claim 1, wherein said TNF-α ~~agent~~ is administered to said mammal ~~animal~~ in an amount effective to reduce airway hyperresponsiveness in said mammal ~~animal~~ as compared to prior to administration of said TNF-α ~~agent~~.

25. (Currently Amended) The method of Claim 1, wherein said TNF-α ~~agent~~ is administered with a pharmaceutically acceptable excipient.

26. (Currently Amended) The method of Claim 1, wherein said TNF-α ~~agent~~ is administered within between about 1 hour and 6 days of an initial diagnosis of airway hyperresponsiveness in said mammal.

27. (Currently Amended) The method of Claim 1, wherein said TNF-α ~~agent~~ is administered within less than about 72 hours of an initial diagnosis of airway hyperresponsiveness in said mammal.

28. (Currently Amended) The method of Claim 1, wherein said TNF-α ~~agent~~ is administered prior to development of airway hyperresponsiveness in said mammal.

29. (Currently Amended) The method of Claim 1, wherein ~~said step of~~ increasing γδ T cell action by administration of TNF-α decreases airway methacholine responsiveness in said mammal.

30. (Currently Amended) The method of Claim 1, wherein ~~said step of~~ increasing γδ T cell action by administration of TNF-α reduces airway hyperresponsiveness of said mammal such that the FEV_1 value of said mammal is improved by at least about 5%.

31. (Currently Amended) The method of Claim 1, wherein ~~said step of~~ increasing γδ T cell action by administration of TNF-α improves said mammal's $PC_{20methacholine}FEV_1$ value such that the $PC_{20methacholine}FEV_1$ value obtained before said step of increasing γδ T cell action when the mammal is provoked with a first concentration of methacholine is substantially the same as the $PC_{20methacholine}FEV_1$ value obtained after increasing γδ T cell action when the mammal is provoked with double the amount of the first concentration of methacholine.

32. (Original) The method of Claim 31, wherein said first concentration of methacholine is between about 0.01 mg/ml and about 8 mg/ml.

33. (Original) The method of Claim 1, wherein said airway hyperresponsiveness is associated with a disease selected from the group consisting of chronic obstructive disease of the airways and asthma.

34-35. (Cancelled)

36. (Currently Amended) A method to reduce airway hyperresponsiveness in a mammal, comprising increasing γδ T cell action in a mammal that has, or is at risk of developing, a respiratory condition associated with airway hyperresponsiveness by administering a composition consisting essentially of tumor necrosis factor-α (TNF-α) to the lung tissue of said mammal, wherein administration of said TNF-α reduces airway hyperresponsiveness in said mammal.

37. (Cancelled)

38. (Currently Amended) A method to reduce airway hyperresponsiveness in a mammal, comprising increasing γδ T cell action in a mammal that has, or is at risk of developing, a respiratory condition associated with airway hyperresponsiveness by administering an agent that activates γδ T cells to the lung tissue of said mammal, wherein said agent is administered either prior to development of airway hyperresponsiveness in said mammal or within between about 1 hour and 6 days of an initial diagnosis of airway hyperresponsiveness in said mammal, wherein administration of said agent reduces airway hyperresponsiveness in said mammal.

39. (New) A method to reduce airway hyperresponsiveness in a mammal, consisting essentially of increasing proliferation or activity of γδ T cells in the lung tissue of a mammal that has, or is at risk of developing, a respiratory condition associated with airway hyperresponsiveness, wherein increasing proliferation or activity of γδ T cells in the lung tissue reduces airway hyperresponsiveness in said mammal.